FINDING OF NO SIGNIFICANT IMPACT
and ENVIRONMENTAL ASSESSMENT

SANDY RIVER ACQUISITIONS

Environmental Assessment No. OR-080-02-01

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United States Department of the Interior
Bureau of Land Management
Oregon State Office
Salem District Office
Cascades Resource Area
Clackamas County, Oregon

Responsible Agency: USDI - Bureau of Land Management

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Abstract: This environmental assessment discloses the predicted environmental effects of one action alternative and one no action alternative for lands located along the Sandy River and lower portion of the Salmon River. The proposed action would entail the acquisition of lands from willing landowners within or adjacent to the Sandy River Project boundary. The BLM and its partners are embarking on a cooperative effort to preserve the high quality of life within the Sandy River Basin through conservation and restoration of lands near the Sandy River. These lands have very high resource values that would benefit the health of the Sandy River Watershed for scenic values, water quality, critical fish habitat, open space and recreational opportunities. The lands are located along or near the Sandy and Salmon Rivers in Clackamas County, Oregon.

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FINDING OF NO SIGNIFICANT IMPACT

The environmental assessment (EA) is attached to and incorporated by reference in this Finding of No Significant Impact (FONSI) determination.

Implementation of the proposed action would conform to management actions and direction contained in the Salem District Record of Decision and Resource Management Plan (ROD/RMP), dated May 1995, which is tiered to and incorporates the analysis contained in the RMP/FEIS (September 1994). The ROD/RMP provides a comprehensive ecosystem management strategy in conformance with the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl* (February 1994) and the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl* (April 1994). The proposed action and associated alternative also conform with direction described in the attached EA.

The EA and FONSI will be made available for public review from February 1to March 2**,** 2002. The notice for public comment will be published in a legal notice by local newspapers of general circulation (*Sandy Post* and *Oregonian*); sent to those individuals, organizations, and agencies that have requested to be involved in the environmental planning and decision making processes.

> Comments received in the Cascades Resource Area Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before March 2, 2002 at 4:00 PM, Pacific Daylight Saving Time, will be considered in making the final decisions for these projects. Office hours are Monday through Friday, 7:30 A.M. to 4:00 P.M., closed on holidays. The fax number is 503-375-5622.

Based upon review of the EA and supporting documents, I have determined that the Proposed Action (Alternative 2) is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Therefore, an environmental impact statement is not needed. This finding is based on the following discussion:

Context: The proposed action is a watershed-specific action. It involves the acquisition of up to 4000 acres of private lands from willing landowners within or adjacent to the Sandy River Project boundary over the next several years as funds and opportunities become available.

The discussion of the significance criteria that follows applies to the intended action and is within the context of local importance. Chapter 4 of the EA details the effects of the proposed action. None of the effects identified, including direct, indirect and cumulative effects, are considered to be significant and do not exceed those effects described in the RMP/FEIS.

Intensity: The following discussion is organized around the Ten Significance Criteria described in 40 CFR 1508.27.

1. **Impacts may be both beneficial and adverse**.
   The beneficial effects of the proposed action is that the scenic beauty, aquatic and wildlife habitat and recreational opportunities of the Sandy River will be preserved for the general public. None of the environmental effects disclosed above and discussed in detail in Chapter 4 of the EA and associated appendices are considered significant, nor do the effects exceed those described in the RMP/FEIS.

2. **The degree to which the selected alternative will affect public health or safety.** Public health and safety were not identified as an issue.

3. **Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas.** There may be historic resources and two wild and scenic river segments are within the project area. Lands to be acquired within the project area will be designated with interim status as an Area of Critical Environmental Concern (ACEC). (EA pp. 4, 8, 13,14, 15). Lands to be acquired do not have to be managed under any Federal guidelines, but will fall under the Northwest Forest Plan management and then they will be managed to meet Aquatic Conservation Strategy (ACS) objectives.

4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.** Over 100 letters were mailed to groups and individuals in the scoping process that resulted in 3 comment letters. All comments were positive and wanted to show their support for the project. An environmental assessment prepared last year for acquiring four parcels of land received no comments on issues or concerns.

   The effects of the proposed action on the quality of the human environment were adequately understood by the interdisciplinary team to provide an environmental analysis. A complete disclosure of the predicted effects of the proposed action is contained in Chapter 4 of the EA and associated appendices.

5. **The degree to which the possible effects on the human environment is highly uncertain or involves unique or unknown risks.** The proposed action is not unique or unusual. The BLM has already acquired land within the watershed and have found effects to be reasonably predictable. The environmental effects to the human environment are fully analyzed in the EA. There are no predicted effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** The proposed action does not set a precedent for future actions that may have significant effects, nor does it represent a decision in principle about a future consideration. Any future projects will be evaluated through the National Environmental Policy Act (NEPA) process and will stand on their own as to environmental effects.

7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.** The interdisciplinary team evaluated the proposed action in context of past, present and reasonably foreseeable actions. Significant cumulative effects are not predicted. A complete disclosure of the effects of the selected alternative is contained

are not predicted. A complete disclosure of the effects of the selected alternative is contained in Chapter 4 of the EA.

8. **The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.** The proposed action will not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor will the proposed action cause loss or destruction of significant scientific, cultural, or historical resources (EA, Appendix A).

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.** The action was determined to be a no effect since no exiting BLM lands would be involved. No critical habitat would be affected.

10. **Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.** The proposed action does not violate any known Federal, State, or local law or requirement imposed for the protection of the environment. The EA and supporting Project Record contain discussions pertaining to the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, and Executive Order 12898 (Environmental Justice). State, local, and tribal interests were given the opportunity to participate in the environmental analysis process. Furthermore, the proposed action alternative is consistent with applicable land management plans, policies, and programs.

Prepared by:

Barbara Raible
Cascades Resource Ecologist

February 1, 2002
Date

Reviewed by:

Carolyn Sands
Cascades Resource NEPA Coordinator

February 1, 2002
Date

Approved by:

Richard C. Prather
Cascades Resource Field Manager

1 FEB 2002
Date

CHAPTER 1.0 PROJECT SCOPE

For the reader's convenience, terms defined in the Glossary (Appendix C) are shown in bold italics the first time they appear within the text of this environmental assessment.

1.1 Project Location

The project area is located approximately 30 miles east of Portland near Sandy, Oregon, in Clackamas County. The project area lies within the Sandy River Watershed. See Figure 1.

1.2 Background

The Salem District Bureau of Land Management (BLM) is in the process of acquiring lands in the Sandy River Basin. These acquisitions are part of the Conservation and Land Tenure Strategy for the Sandy River Watershed and Mt. Hood Corridor that was prepared for a Lands and Water Conservation Fund (LWCF) project area.

The BLM and its partners have embarked on a cooperative effort within the Sandy River drainage and its tributaries including the Salmon River in preserving the high quality of life. Through the conservation and restoration of the Sandy River's natural resources we plan to protect and enhance water quality, wildlife and fisheries habitat, recreation opportunities, scenery and open space. The BLM shares many general management goals with the state, counties, regional and local governments, Forest Service, and interested organizations. The Sandy River is near the fast growing Portland metropolitan area – an area that is projected to nearly double in population over the next 25 years.

The middle Sandy River is continually growing in popularity as a recreation area, primarily for fishing, swimming, whitewater boating, and day use activities. Like much of the rest of the river, the middle portion of the Sandy provides critical habitat and passage for anadromous fish. The area also provides extensive wildlife habitat and potential connectivity. The area is known for its scenic beauty, deeply incised gorges and older forests.

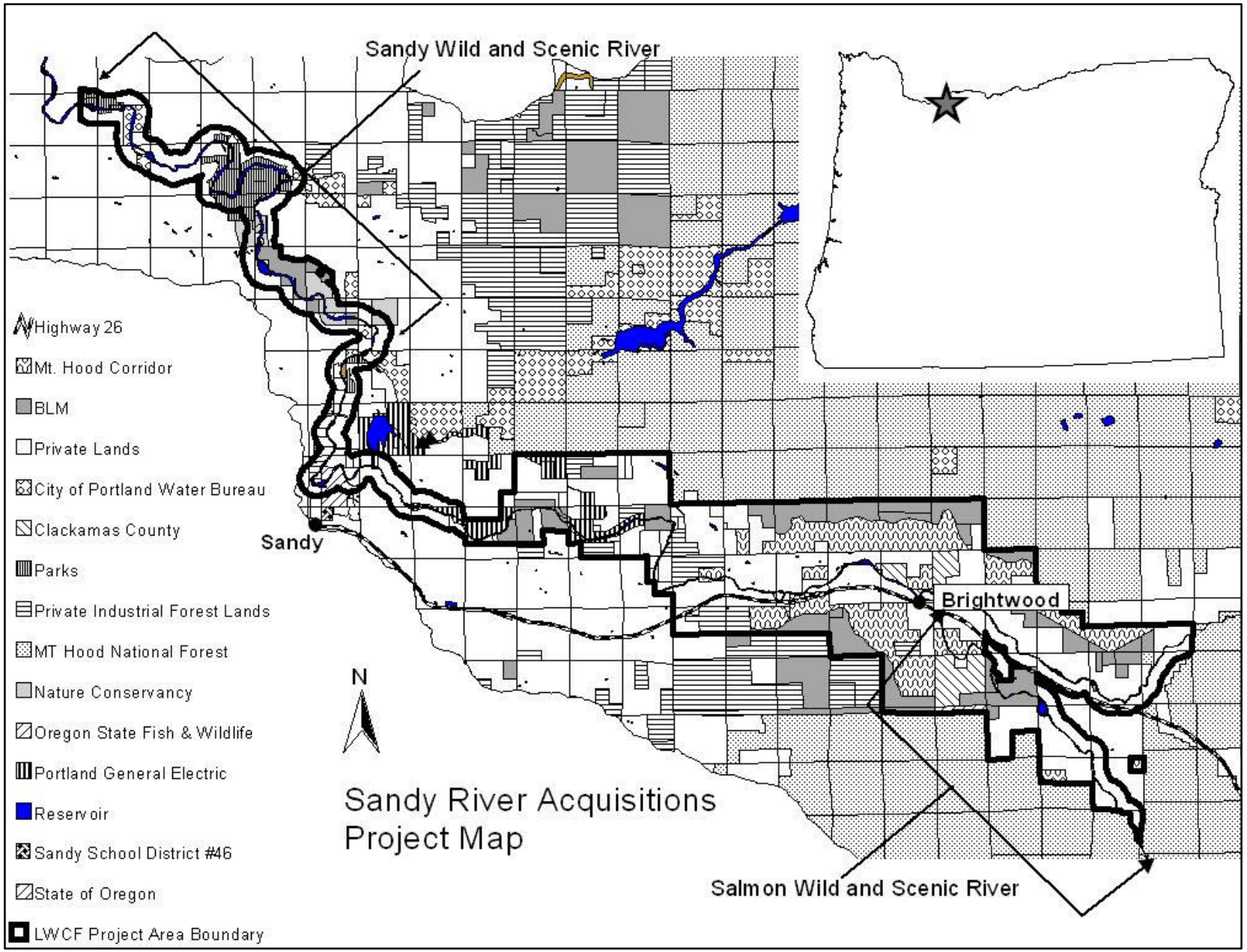
Natural, scenic and recreational values associated with the Sandy and Salmon Rivers were recognized by State Scenic Waterway designation of the lower Sandy in 1972, and National Wild and Scenic River designation of the Upper and lower Sandy River and Salmon Rivers in 1988. The middle segment of the river was found to be eligible as a National Wild and Scenic River due to its outstanding scenery and its critical importance for anadromous fish runs. This middle Sandy segment extends from the confluence of the Salmon River with the Sandy near Brightwood, Oregon downstream for nearly 20 miles to the confluence with the Bull Run River near Dodge Park. The riverside lands within this segment are primarily in private and public utility ownership with scattered publicly owned parcels of BLM and Clackamas County lands. The Oregon Natural Resources Protection Act of 1996 established the Mt. Hood Scenic Corridor with many of the uplands (viewshed, tributaries and surrounding hillsides) being managed by the BLM.

An ***interdisciplinary team (IDT)*** was formed with the intent of developing the proposed management recommendation(s) and to complete an ***environmental analysis*** of the proposed project in accordance

with the ***National Environmental Policy Act (NEPA***). That environmental analysis is documented in this ***environmental assessment* (*EA*)**.

This EA is intended to provide the Cascades Field Manager sufficient information for reaching an informed decision and determining whether an action may have significant environmental effects. Should the selected action(s) have significant environmental effects, an ***environmental impact statement*** will be prepared. If the selected action(s) do not have significant environmental effects, ***a finding of no significant impact*** will be prepared.

Figure 1. Sandy River Project Map



1.3 Purpose of and Need for Action

1.3.1 Land Acquisition

This middle segment of the river offers the BLM and our partners the greatest potential for acquisition of lands with very high resource values that would benefit the health of the Sandy River watershed as well as provide needed public access and protection of the scenic viewshed. Land acquisitions through either donation, exchange or ***fee simple*** purchase would help consolidate public ownership, providing more efficient management of scattered BLM lands. Within this river segment more than 40 non-federal parcels adjacent to or within view of the river have been identified for potential acquisition from willing landowners.

A number of key landowners have already expressed an interest in transferring their lands into public ownership through acquisition. BLM is pursuing willing landowner acquisitions in cooperation with the Western Rivers Network (formerly The River Conservancy) and other interested organizations and individuals.

Although, the acquisition parcels are not specifically identified for acquisition under the existing land use plans, the acquisition actions are consistent with the Salem District Resource Management Plan (RMP) and is authorized under Section 205 of Public Law 94-579. Consummation of this acquisition action would serve important public objectives. The proposed acquisitions would not or should not conflict with any known patents, state or local city/county planning or zoning (RMP, Appendix H).

The need for these land acquisitions is consolidation of Federal ownership. Consolidation provides more efficient "landscape" management of natural resources within the Sandy River watershed and Mt. Hood corridor. This type of management is consistent with the BLM's Conservation and Land Tenure Strategy for the Sandy River and Mt. Hood Corridor, and the Oregon Resources Conservation Act of 1996, contained in Division B of the Omnibus Consolidated Appropriations Act of 1997, P.L. 104-208. Title IV, Sec. 401 (g) of that legislation mandated BLM to manage land within view of the Mt. Hood Loop Highway (U.S. Highway 26) primarily for the protection and enhancement of scenic qualities. These acquisitions will help protect scenic values and alleviate problems associated with private land development inconsistent with management of adjacent Federal lands along a federally recognized scenic corridor.

1.3.2 Project Objectives

The Salem District RMP (page 55 and Appendix H) identifies Land Tenure Adjustment Criteria for resource opportunities related to land acquisition. The proposed land acquisitions are within RMP Land Tenure Zone 2 (Map 2-8), which has the objectives of blocking up areas with significant resource values. "Use land acquisition, exchange and conservation easements to meet Aquatic Conservation Strategy (ACS) objectives and facilitate restoration of fish stocks and other species at risk of extinction" is the management direction of the RMP for Riparian Reserve management. This proposal is not specifically identified in the RMP, but does meet the criteria for enhancing threatened or endangered fish habitat, potential public access for recreation opportunities, and other ACS objectives for riparian areas and wetlands.

1.4 Proposed Action

This proposed action is to acquire lands or ***easements*** within or adjacent to the project area by purchase, donation or other methods from willing landowners as funding becomes available. The first lands are to be purchased in spring, 2002. Purchases are funded through Land and Water Conservation Funds that are applied for on an annual basis. If other sources of funds are found, they could also be used.

1.5 Decision to be Made

Richard C. Prather, Cascades Field Manager, is the official responsible for deciding whether or not to prepare an environmental impact statement, and whether to approve the project as proposed, not at all, or to some other extent.

1.6 Issues

A total of three letters were received as a result of this scoping and three phone calls. All comments were favorable.

Considering public comment, no major issues were identified to be the focus of this environmental analysis. The document contains a discussion of seven standard elements of the environment (i.e., soils and water, vegetation, wildlife and fisheries, recreation, visual, socioeconomic, and cultural), which were not identified as major issues but are subject to environmental analysis.

Authority

The authority for the proposed land purchase is in Section 205 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1716) as amended.

CHAPTER 2.0 ALTERNATIVES

2.1 Alternative Development

In addition to the required "no action" alternative, the IDT formulated one preliminary alternative to the Sandy River Acquisition project that addresses the major aspects of acquisition and fulfills the purpose and need for action previously discussed in section 1. 3.

2.2 Alternatives Considered in Detail

2.2.1 Alternative 1 (No Action)

The BLM would not implement the project. Lands along the Sandy River could be bought by various owners and developed according to state and county land use laws and ordinances. This alternative serves to set the environmental baseline for comparing effects of the action alternatives.

2.2.2 Alternative 2 (Proposed Action)

The proposed action is for the United States (BLM) to acquire (surface and mineral estates) or appropriate easement interest for parcels of land located in the Sandy River Basin for the appraised fair market value. Funding for the acquisition of the Offered Lands would be obtained from the Land and Water Conservation Fund. Total new land purchases would total approximately 4,000 acres. This number is based on the acres that were tentatively identified in the Land and Conservation Strategy proposal as lands with possible willing landowners.

Should the Offered Lands become the property of the United States, the parcels would be managed by the BLM. BLM lands within the project area have been nominated as an Area of Critical Environmental Concern (ACEC) to be added to the existing Sandy River Gorge ACEC. To be officially designated as an ACEC, the BLM state director must approve an amendment to the Salem District RMP. An ID team has already determined the importance and relevance and made the recommendation to designate lands along the Sandy as an ACEC. Interim management guidelines consistent with ACECs will be used until an amendment to the Salem District RMP is approved. At that time a management plan will be written. All lands to be acquired within the Sandy River Land Project area will be considered for ACEC status as they are acquired. As acquired lands, the parcels would not be open to mineral entry. Primary management emphasis for the parcels would be the enhancement and restoration of natural resources, while protecting any sensitive fish, wildlife, plant, cultural resources, aesthetic and recreational values.

Acquired parcels would be given an Off-Road Vehicle (ORV) designation upon acquisition. Consideration would be given to motorized and non-motorized use on all the parcels as a whole along the entire Sandy River corridor. The ORV designation would provide guidance on the level of public motorized access that is appropriate for each parcel, consistent with the Code of Federal regulations, Subpart 8342, *Designation of Areas and Trails*. BLM-administered lands in the Sandy River Area of Critical Environmental Concern are currently "Closed" to motorized use, due to sensitive resources and incompatibility with motorized use. The proposed acquisitions contain similar resources and would most likely be given an ORV designation of "Closed" or "Limited to Designated Roads." The final designations will be documented as plan maintenance to the Salem District RMP in the District's *Annual Program Summary Report* following the acquisition of parcels.

The following criteria would be used to evaluate opportunities for acquisition of lands to meet resource management objectives. This list is a compilation of the Salem District RMP, Appendix H and The Conservation and Land Tenure Strategy for the Sandy River Watershed and Mt. Hood Corridor. Lands containing the following characteristics have the highest priority for acquisition.

- ◊ Threatened, endangered or sensitive plant and animal species habitat
  - o Fish Habitat
  - o Unique low-elevation old-growth forest ecosystems
  - o Wildlife connectivity to adjacent federal or other protected lands
- ◊ Riparian areas and wetlands
- ◊ Special habitats such as cliffs, talus slopes, meadows, caves
- ◊ Key big game seasonal habitat
- ◊ High quality scenery and its protection
- ◊ Lands adjacent to rivers eligible for designation under the National Wild and Scenic Rivers Act
- ◊ Rare or unique geologic features

- ◊ Significant cultural resources
- ◊ Accessibility of the land for public recreation and other uses.
- ◊ Contain or have the potential to restore river frontage, wetlands or side-streams.
- ◊ Water quality
- ◊ Botanical and ecological resources
- ◊ Public health and safety

2.2.3 Alternative Dropped From Detailed Study

Although land exchange may help achieve overall management objectives and is an acceptable method for acquisition of land within the project area, exchange was not evaluated as an option since owners would have to designate BLM parcels that would be of interest. Any exchanges proposed would be handled through a separate environmental assessment process.

CHAPTER 3.0 AFFECTED ENVIRONMENT

Chapter 3.0 shows the present condition (i.e., affected environment) within the project area.

3.1 Soil and Water

3.1.1. Soils

Within the last 10,000 years, three significant periods of eruption from Crater Rock on Mt. Hood have produced volcanic mudflows (lahars). Mudflow deposits from these eruptive periods are still visible within the watershed.

The Timberline eruptive period occurred between 1400 and 1800 years ago and produced mudflows that traveled the length of the Sandy River to its confluence with the Columbia. The Zigzag eruptive period took place 400-600 years ago, producing deposits found in a small area of Old Maid Flats (the flat east of the confluence with the Zigzag River). The Old Maid eruptive period delivered coarse sands down the Sandy River to the Columbia between 200 and 300 years ago.

The Sandy River lahars filled the Sandy River Valley with coarse sandy deposits ranging from a few to several tens of feet thick, and buried the old growth forest along the river.

Landform types within the project area are mostly valley bottom with weak rock with gentle, moderate or steep slopes. The valley bottom is generally poorly sorted deposits of sand, gravel, and re-worked ash. The rock types are andesitic tuff breccia, fluvial volcaniclastic sandstone and minor siltstone with slopes from 0 to 50 percent and greater. The potential for landslides in the rock types with moderate to steep slopes is moderate to high. Stream bank failures and inner gorge failures may be the most common type of landslide in the watershed. Stream bank failures tend to be small and are often concealed by riparian vegetation. Stream bank failures can have short return intervals and may account for a majority of the sediment delivered to streams by landslides.

The Sandy River is noted for the presence of fine suspended sediment associated with the glaciersat the heads of the Sandy and Muddy Fork Rivers. The Muddy Fork is aptly named and

contributes a high proportion of suspended sediments as a result of bank erosion and landslides associated with steep, unstable volcanic mudflow deposits through which the river flows (Upper Sandy National Wild and Scenic River Environmental Assessment, 1993).

Soils are generally highly productive along the valley bottom.

3.1.2 Water

Annual precipitation within the project area ranges between 70 to 100 inches. Precipitation is primarily rain with snowfall rare below 2000 feet. Average temperatures vary from around freezing in the winter to the mid- 80s during the summer.

Table 2: Beneficial Uses Associated with Streamflow within Project Area

Beneficial Use	Information Source	Action Area
Resident Fish	BLM	Sandy River & tributaries
Anadromous Fish (Listed)	BLM	Sandy River & tributaries
Municipal Use - City of Sandy	WRIS*	Alder Creek
Domestic Use	WRIS*	Sandy River
Irrigation Use	WRIS*	Sandy River

*WRIS - Water Rights Information System of the Oregon Department of Water Resources

Water rights for fisheries exceed all other water rights combined within the Upper Sandy Watershed. There are 18.5 cubic feet per second (cfs) of water removed above Marmot Dam in the Upper Sandy with a total of 57.8 cfs removed when combining with the Zigzag and Salmon. The average 30-day baseflow at Marmot Dam from 1920-1994 is 327 cfs, so withdrawals are a significant portion of the long-term average baseflow.

Located at RM 30 on the Sandy River, Marmot Dam is the most upstream structure of the Bull Run Hydroelectric Project. Marmot Dam is a 47- foot high concrete-encased roller compacted concrete gravity dam. The main section is 195 feet long. It was reconstructed in 1989 to replace a deteriorating rockfilled timber crib dam. Sand and gravel have settled behind the dam so there is no reservoir or storage capacity. A fish ladder operates on the south side of marmot dam for upstream migrants. The Bull Run Hydroelectric Project allows for the diversion of up to 800 cfs from the Sandy and Little Sandy Rivers in any combination with the primary goal of not spilling any water past the Little Sandy diversion dam, which might falsely attract fish to that stream. The water that is diverted at Marmot Dam is released into the Bull Run River and flows back into the Sandy River at the confluence with the Bull Run River. Marmot Dam is scheduled to be decommissioned within the next ten years after an acceptable plan is agreed to by all parties involved. The removal of the dam and structures at the dam will return the River to a more natural state. (Draft Project Decommissioning Report for the Bull Run Hydroelectric Project FERC Project No. 477, 2000)

The Sandy River from the mouth to Marmot Dam was identified as a concern for summer stream temperatures. The portion of the Sandy River within the project area was observed to have

moderate problems for turbidity, sediment and lowflow and observed severe problems for erosion and stream structure (streambank condition, location and amount of boulders and woody debris, pool levels, etc.) (DEQ 1988) Beneficial uses affected include cold-water fisheries and water contact recreation. These problems are attributed to glacial runoff, an unstable channel and water withdrawals.

Stream shade and the associated effects on stream temperature are of concern in the lower Sandy subwatersheds. (Upper Sandy Watershed Analysis, 1996).

The State Land Board will consider navigability of the lower 37.5 miles of the Sandy River at its February 2002 meeting. A study by Department of State Lands (DSL) staff concludes that the river is navigable because it meets the federal standards for navigability and therefore is eligible for a claim of public ownership.

3.2 Vegetation

3.2.1 Forest

All of the project area lies within the western hemlock zone. Western hemlock is the major tree species that will replace itself over time. It occurs on warm, moist sites and tends to be the most productive in terms of rapid and large tree growth. Douglas-fir and western redcedar are conifers associated with hemlock and numerous hardwood species such as red alder, big-leaf maple, and cottonwood. Within the project area most of the land is forested although the benches above the river have agricultural fields. Large blocks of mature timber exist on some of the PGE and public lands. Most of the privately owned forestland has been logged within the last half century at least once.

The riparian reserve vegetation along the Sandy River actively interacts with the river providing a multitude of functions, including: slowing flood flows, filtering sediment, contributing organic materials, and providing hiding cover for fish. Red alder, a dominant nitrogen-fixing hardwood species, can provide significant nitrogen inputs to riparian ecosystems. In addition, riparian hardwoods serve as important habitat for many bryophyte and lichen species that require a humid cool environment.

3.2.2 T&E, Special Status, and Special Attention Species

Botanical diversity exists along the Sandy River in the old-growth segments. Lands that have been recently harvested tend to be in the early stages of vegetation development. The ecological/botanical resource within the Sandy River Gorge ACEC was considered an outstandingly remarkable criterion. The resource was important for the diversity of vegetation, both plants and communities, and because of its scenic and wildlife value. The presence of unique low-elevation old-growth forest ecosystems is rare for the Pacific Northwest. The river supports over 200 species of plants in 12 distinctive habitat types. Many plants and plant communities are found along the river that otherwise would not be readily encountered along a river at this elevation or location. This is due, in part, to a number of varied physiographic conditions including the river's location and the effect of a distinctive cold air drainage pattern. The river's geographic location, near the mouth of the Columbia River Gorge, has also contributed to the vegetative diversity. Carving a near-sea level route through the Cascades, the Columbia River Gorge is a major factor in the region's rich natural and cultural history. This

unique physiographic setting supports many endemic and relict populations of plants as well as important habitat for numerous animal species (Franklin and Dyrness, 1973).

Through time, the natural forces of rain, wind, and erosion generated by the active river created an environment of surprising complexity. The adaptive responses of plants to these environmental factors have resulted in a diverse and complex flora in many parts. Moist and swampy areas (resulting from numerous springs along the river's steep sides) establish conditions for Oregon ash, big-leaf maple, and many herbaceous plants adapted to more mesic environments. Remnants of climax Hemlock-fir remain on terraces and steep slopes too difficult for early logging operations.

Natural disturbances (fire, flood, and windstorm) have been frequent in the past. Such disturbances disassociate the stable plant communities causing many types and stages of plant succession. The many successional stages contribute greatly to the complexity of the flora.

3.2.3 Invasive Species

There are many invasive species that grow within the project area. Scotch Broom is present throughout the watershed and is abundant especially on parcels that have been harvested. Significant non-native invasive plants include Japanese knotweed, Himalayan and evergreen blackberries and English ivy. These species are very competitive with native plants and can easily form monocultures. Blackberries do provide some habitat and food for birds and small mammals. Large amounts can decrease property values. Knotweed, once solely an ornamental for yards, has started to rapidly increase in riparian areas with negative impacts similar to blackberries. English ivy, also an escapee from yards, smothers understory vegetation and damages trees. The Nature Conservancy has been working on Japanese knotweed, Scotch broom, and blackberry inventory, control and eradication on lands along the lower portion of the Sandy River.

Potential new invaders include gorse that was found and eradicated in the Wildcat drainage on public land. Occasional diffuse knapweed, spotted knapweed and meadow knapweed plants have been hand-pulled on along Highway 26, but no inventories have been conducted on non-federal lands within the project area.

3.4 Wildlife and Fisheries

3.4.1 Wildlife

The Sandy River provides diverse habitat for the full complement of wildlife species typical of a low-elevation site in the northern Cascades. Numerous species utilize the Sandy River and adjoining riparian lands for habitat. The Upper Sandy Watershed Analysis says that based on habitat requirements, 237 terrestrial, aquatic, and amphibian species could potentially occur within the Upper Sandy Watershed. It is especially valuable because the area is relatively isolated and undisturbed. The Oregon Natural Heritage Plan (1988) lists portions of the Sandy River Gorge as one of the last remaining and generally undisturbed representations of a valley bottom coniferous forest in the northern Willamette Valley.

Aquatic resources include river, stream, spring and wetland habitats with their associated riparian vegetation, riverbanks and bars. In the wetland and riparian inventory conducted by a consultant for Multnomah County, the Sandy River Gorge received the highest wildlife assessment rating of

all the areas examined in the county (Lev 1988). There is a rich diversity of amphibian species that includes several state sensitive species such as Red-legged frog, Olympic, Oregon, Larch Mountain and clouded salamanders. In addition the diversity of species may be attributed to the "cold air trough" effect where cold air drains down canyons and tributaries from higher elevations and allows the establishment of certain limited populations outside of their expected range (Lukas 1983; Cazzulino et al. 1977)

The habitats adjacent to the river and major tributaries provide important travel corridors for wildlife movement along the river and dispersal to and from the Larch Mountain area to the east. The Sandy offers one of the richest wildlife resources of all rivers in the region with over 40 species of mammals, over 100 species of birds and more than 15 species of amphibians and reptiles known or believed to be present along the lower river.

Bald eagles and peregrine falcons may use the river area for foraging while northern spotted owls could also use the upper portions of the watershed for foraging. The Sandy River functions as a migration flyway for harlequin ducks. Habitat exists in the entire upper Sandy River system for these ducks, a Bureau sensitive species. In-stream structures (logs, boulders) are important for providing loafing sites with slower side channels and slower moving waters are important for brood rearing. Harlequins use areas away from human activity with a dense shrub component. It has been identified as a sensitive species due to impacts on breeding habitat from: timber harvest, recreation increases, and degraded riparian habitats. Pileated woodpeckers have been seen or heard on portions of the river.

Deer and elk use the unoccupied lands along the Sandy extensively. Two main elk herds are in the lower watershed with isolated, smaller herds throughout the drainage. Private and agricultural lands are used for winter range. Other larger mammals include black bear, coyote, red fox, cougar, bobcat, otter, raccoon, mink, beaver and porcupine.

To the north of the Sandy lies the Bull Run LSR and to the south is the Salmon-Huckleberry LSR. The lack of older forest habitat between these two LSRs is a barrier to movement for many mature forest species.

3.4.2 Fisheries

The fishery values of the Sandy River are significant for the diversity of runs and populations, quality of spawning and rearing habitat, and regional importance and reputation as an excellent fishery. Recent anadromous ESA fish listings by the USFWS and NMFS, the Oregon Plan for Salmon and Watersheds, the Wild and Scenic Rivers Act, State Scenic Waterways Act, and the Northwest Power Planning Act all represent recognition of the national importance of the Sandy River's fishery values.

The Sandy River contains populations of at least six runs of anadromous fish species, as well as resident species. The Sandy River system exhibits a relatively large number of anadromous species in comparison to other rivers in the region and other major tributaries of the Columbia River. Large dams and water projects upstream on the Columbia River restrict and impact rivers farther upstream while the Sandy has good species diversity and relatively healthy populations. Habitat within the river segment is considered good to excellent, and provides nearly ideal conditions for anadromous fish species. Riparian vegetation in the sub-basin is afforded much more protection than in other drainages in the state, contributing to generally good stream shading

in the upper and middle portions of the drainage, which in turn keeps water temperatures relatively cool. The Sandy River is known to support federally listed populations of "Threatened" steelhead and chinook salmon, as well as sea-run cutthroat trout, which are proposed for listing. Coho salmon are federally proposed and listed as "Threatened" by the State of Oregon.

3.5 Recreation

The Upper Sandy Watershed has high recreational use with Mt. Hood luring recreationists since the turn of the century. Use of the upper portion of the watershed has been rising at rates at least as great as the rate of population growth for Portland. The fact that the watershed is within an hours' drive for three quarters of the state's population is particularly significant. Established recreation use occurs at either end of the project area. The main recreational use within the project area is fishing. Hiking on BLM land is limited to the ACEC in the lower portion because of limited access of trails.

The river-related recreational values provided by the Sandy River have long been recognized. At the national level, very few rivers in the country have such a comparable pristine and natural condition so close to a major urban center.

3.6 Visual

The pristine and natural conditions were recognized with the designation of the 12.5 mile segment of the lower river as a wild and scenic river. The entire designated segment of the Sandy is free flowing and has no impoundments or major diversions along its course. The shoreline throughout the designated segment is in a natural condition. Based on the existing level of corridor development and the natural condition of the shoreline, Congress has determined that the lower Sandy River be divided into two classified segments: 1) the upper 3.8 miles starting near Dodge Park is a Scenic River and 2) the lower 8.7 miles to Dabney State Park are a Recreational River. The middle segment of the river, upstream of Dodge Park, was deemed eligible for designation as a National Wild and Scenic River. The outstandingly remarkable values are Scenic, Recreational, Fish/Wildlife and Cultural. At the time the federally owned lands along this middle segment of river amounted to one percent; therefore, a suitability study was not proposed.

Its near-pristine condition, steep topographic relief, and varied and diverse vegetation generally characterize the truly distinctive canyon landscape. Rushing rapids and still pools with occasional riverside cliffs and waterfalls further enhance the scenic quality. The proximity of the Sandy River to the Portland metropolitan area and to the Columbia River Gorge National Scenic Area adds significance to this scenic resource. The visual character of some of the privately owned parcels has been impacted by the timber harvest.

The Clackamas County Comprehensive Plan (1992) includes the recommendation that the viewshed be maintained as an open rural setting, with the exception of the already existing high-density residential developments. The scenic views along Marmot Road overlooking the Sandy River and the foothills of the Cascades are identified as particularly significant.

3.7 Socioeconomic

The Clackamas County Comprehensive Plan (1992) is a planning guide for the next twenty years. As an official policy statement of the County, the Plan directs future decisions on land use

actions, ordinance amendments, zone changes, capital expenditures, procedures and programs (Board of County Commissioners, 1992). Reviews and Revisions of this plan are to occur every five years.

The County's economy was traditionally dominated by natural resource-oriented industry; but has become increasingly diversified, especially in the urban area. It is an area of rapid growth, pressure to urbanize, and diverse rural activities. In general, zoning designation within the project area is forestland. These are lands suitable for commercial forest uses and other forested lands needed for watershed protection, wildlife and fish habitat, recreational uses and scenic corridors. Areas with housing developments are designated as farm forest – 10 acres, rural residential farm forest – 5 acres. The Mensinger Bench area is designated as exclusive farm use. Taxation is based on the designation.

The 1990 census data showed a nine percent population increase from 1980 in the Mt. Hood Corridor area. During this decade, a 41 percent increase in housing units also occurred inside the corridor. A high "quality of life," a temperate climate, and numerous job opportunities in the Portland Metropolitan area led to this substantial population increase. Between 1970 and 1980, the City of Sandy experienced an 88.1 percent increase in population (Oregon Employment Division, 1992). Between 1980 and 1990 the City of Sandy expanded by 42.9 percent (Oregon Employment Division, 1990).

3.8 Cultural Resource

No inventories for cultural sites have been conducted. However, historic maps and inventory data from adjacent BLM lands indicate that the Bridal Veil Lumber Company operated a logging railroad along the middle segment of the Sandy River throughout this area in the 1920s and 30s. Historic features including grades, rails, trestles, logging and loading equipment and workers' camps may be present. The Barlow Road, an alternate route of the Oregon trail, is a site along the Sandy within the project area. Highly significant segments listed on the National Register of Historic Places include Rock Corral and Barlow Road South Alternate (Wildwood Recreation Site entrance), which are on BLM lands and the Devils Backbone segment near Marmot.

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

Chapter 4.0 shows the changes that can be expected from implementing the action alternatives or taking no action at this time. The "no action" alternative sets the environmental base line for comparing effects of the action alternatives.

These effects may be direct, indirect or cumulative and will be covered in the following section. Effects can be short-term or long-term. For a complete review of the environmental consequences and effects on general land tenure, refer to the Salem District RMP Final Environmental Impact Statement (FEIS - September, 1994). Effects are direct when they occur in the same place and at the same time as the proposed action. Effects are indirect when they do not take place at the same time and place as the proposed action, but when they can be related to the proposed action.

Cumulative effects are the effects of the proposed action when considered with past, present and reasonably foreseeable future actions. When added together, cumulative effects are those that independently do not pose a risk, but collectively may have some measurable effects. In addition, intermediate cumulative effects have been documented in the Salem District RMP FEIS and the Northwest Forest Plan. Standards and guidelines in the Salem District RMP help ensure that significant cumulative effects beyond what was identified in this document would not occur. The resource values not identified in this section were those with no, or only negligible impacts, or those that are identified in the Environmental Elements Summary (See Appendix A).

4.2 Soil and Water

4.2.1 Alternative 1 (No action)

If the Offered Lands are not acquired by the BLM, it is unknown what the current of future owners would do with their property. The indirect and cumulative effects would be the potential development of the parcel for residential or commercial activity. Under private ownership, the Offered Lands would not be required to meet ACS objectives.

4.1.2 Alternative 2 (Proposed Action)

The purchase of the Offered Lands by the BLM would increase the amount of publicly managed riparian and wetland habitat along the Sandy River, which has federally listed winter steelhead, chinook and chum salmon and state listed sea-run cutthroat trout. The indirect and cumulative effects of the proposed action would be that the riparian habitat on the parcel would be managed in compliance with the Aquatic Conservation Strategy Objectives. The acquisition of the Offered Lands is not expected to prevent the attainment of the Aquatic Conservation Strategy Objectives (See Appendix B).

4.3 Vegetation

4.3.1 Alternative 1 (No action)

If the Offered Lands are not acquired by the BLM, the lands may be developed for residential or commercial or sold to another party. The management outcome cannot be foreseen. The indirect and cumulative effects could be the potential development of the parcel for residential or commercial activity. Restoration of native vegetation may or may not occur as part of that potential development.

4.3.2 Alternative 2 (Proposed Action)

The purchase of the Offered Lands by the BLM would increase the amount of publicly managed vegetation. Lands, which fit the criteria for purchase, would be considered to have interim management as an ACEC. Indirect and cumulative effects that may result from BLM's management of the parcel include potential restoration efforts such as noxious weed eradication, road and trail revegetation and the replanting of disturbed areas with native vegetation.

4.4 Wildlife and Fisheries

4.4.1 Alternative 1 (No action)

The direct effects may include the loss of habitat due to the development of residential sites on the privately owned parcels. Increase of nonnative invasive species may occur without treatment. The indirect and cumulative effects could be the potential development of the parcel for residential or commercial activity. Under private ownership, the Offered Lands may or may not be managed to provide habitat to the wildlife species that currently use the parcel or for future connectivity.

4.4.2 Alternative 2 (Proposed Action)

The purchase of the Offered Lands by the BLM would increase the amount of publicly managed riparian, wetland and forest habitats that provide for a wide variety of both sensitive and non-sensitive waterfowl, migratory songbirds and mammals. Indirect and cumulative effects that may result from management of the parcel by the BLM include development of older forest habitats in the future. Over the long term as the forests grow, connectivity from the Bull Run Watershed to the Salmon/Huckleberry Wilderness Complex will be reconnected and used as a travel corridor by wildlife.

4.5 Recreation

4.5.1 Alternative 1 (No action)

If the Offered Lands are not purchased by the BLM, incompatible uses occurring near the river would most likely continue until the parcels were sold. If the offered lands are sold for private use, development would most likely be residential. Any subsequent development or use of the property may or may not be compatible with Conservation and Land Tenure Strategy for the Sandy River Watershed and Mt. Hood Corridor. Public ownership would not increase along the segment of the middle Sandy River that was found to be eligible for designation as a National Wild and Scenic River. Public motorized access would most likely continue to be restricted under private ownership. Indirect and cumulative effects could include the loss of the recreational and educational opportunities that the acquisition of lands might offer.

4.5.2 Alternative 2 (Proposed Action)

The Sandy River and Mt Hood corridor offer exceptional recreational opportunities for a very broad range of recreational activities such as fishing, hiking, camping, wildlife viewing, nature study, land-based recreational day use, and non-motorized boating or floating. Easily accessible from the Portland Metro area, the area's existing parks, natural areas, scenery and recreational facilities offer increasingly important potential for the Northwest's second largest population center.

The indirect and cumulative effects would be evaluated as part of the master plan that would be developed for all the acquired parcels as an ACEC. Maintaining and enhancing visual resources on the parcels would most likely be given greater long-term emphasis than if the parcels remain in private ownership. Public motorized access to most of the acquired parcels would continue to be restricted. However, motorized access may be provided at key locations on some of the acquired parcels as planning for motorized and non-motorized access is completed for the project area.

The parcels also provide educational and volunteer opportunities for learning about riparian wetland habitat and participation in any proposed restoration efforts.

4.6 Visual

4.6.1 Alternative 1 (No action)

At that present the scenic quality with the Sandy River viewshed and Mt. Hood corridor is outstanding. There are still stretches of the river that have not been developed. If all the available lands that fit the criteria were developed within the next 20 years, the Sandy would become a much different place.

4.6.2 Alternative 2 (Proposed Action)

The scenic quality within the Sandy River and Mt. Hood corridor is outstanding. Its near-pristine condition, steep topographic relief, and varied and diverse vegetation characterize this distinctive canyon landscape. Rushing rapids and still pools with occasional deeply incised gorges, riverside cliffs and waterfalls further enhances the scenic quality. The proximity of the Sandy River to the Portland metropolitan area, Mt. Hood National Forest and the Columbia River Gorge National Scenic Area adds significance to this scenic resource. The acquisition of lands within the Sandy River would enhance the scenic quality by preventing the development of home sites along the river.

4.7 Socioeconomic:

4.7.1 Alternative 1 (No action)

The direct effects of the parcel remaining in private ownership include the continuation of the payment of private property taxes to Clackamas County. If the lands were developed the amount of taxes to the county would increase. Cumulative effects would also be the increased tax base of developed lands. If the parcel remains in private ownership, it would not be removed from mineral entry.

4.7.2 Alternative 2 (Proposed Action)

The purchase of the Offered Lands by the BLM would result in a decrease in overall property taxes collected in Clackamas County. Indirect or cumulative effects were identified as the reduction in private property taxes overtime as land values increase and the removal of the parcel from mineral exploration and collection.

4.8 Cultural

4.8.1 Alternative 1 (No action)

If the Offered Lands are not acquired by the BLM, it is unknown what the current owners would do with their property. The indirect effects would be the potential development of the parcels and loss of any cultural sites present.

4.8.2 Alternative 2 (Proposed Action)

Cultural site inventories are not typically conducted on lands to be acquired. Previously identified cultural resources within the surrounding area include numerous features of the historic Bridal Veil Lumber Company. There would be no direct effects of the purchase of lands by the BLM

unless cultural sites are found. The indirect effects would include preservation of any found sites. No cumulative effects were identified.

4.9 Conformance With Land Use Plans, Policies, and Programs

The Proposed Action is in compliance with and would contribute to meeting the following goals and objectives identified in the BLM's National Strategic Plan (FY 2000 - 2005) and the Salem District Resource Management Plan (RMP - May, 1995).

BLM's National Strategic Plan for FY 2000- FY 2005: Department of Interior Goal 1.0 calls for "Serving Current and Future Publics" and meeting the recreation demand of growing populations. The BLM's Mission Goal 01.01 calls for "Providing opportunities for environmentally responsible recreation." This goal also recognizes the growing demand for recreation opportunities and the importance of maintaining the health and diversity of the land.

Watershed Analysis and LSR Assessment: One of the key questions of the Upper Sandy Watershed Analysis concerns the connectivity of the watershed since it lies between the Salmon-Huckleberry Wilderness/LSR Complex to the south and the Bull Run LSR to the north (p.6-12). This was also identified as a Connectivity Area of Concern in the North Willamette LSR Assessment (p. 3-79). The Mt. Hood Wilderness is mostly high elevation and thus does not provide a link for some species. Concerns in the area include: large amounts of private land, lack of late-successional and dispersal habitat, Highway 26, and powerline corridors. Riparian Reserves in this area are also below the Regional average for amount of late-successional habitat.

- *Salem District Record of Decision and Resource Management Plan*, May 1995, pp. 5-6 (ACS objectives), 9-15 (Riparian Reserves), 28-32 (Special Status/Attention Species and Habitat), 36-37 (Visual Resources), 41 (Socioeconomic Conditions), 64-67 (Noxious Weeds; Fire/Fuels Management), Appendix C (Best Management Practices), 41 (Recreation Management Objectives.
- ACS Objectives and Riparian Reserves: Only alternative 2 would result in the maintenance of ACS objectives since alternative 1 leaves the lands within private management.

Special Status/Attention Species and Habitats:

All alternatives are predicted <u>not</u> to result in a trend toward federal listing, loss of population viability, or elevation of status to any higher level of concern (Chapter 4).

Recreation Management Objectives

- *"Manage special and extensive recreation management areas in a manner consistent with BLM Recreation 2000:A Strategic Plan and Oregon Washington public lands recreation initiative. Recreation 2000 echoes many of the objectives stated above and further states "The BLM will enhance recreational opportunities through land ownership adjustments, increased and improved access, and other adjustments."*

- "Provide a wide range of developed and dispersed recreation opportunities that contribute to meeting projected recreation demand within the planning area."

- "Manage scenic, natural, and cultural resources to enhance visitor recreation experiences, and satisfy public land users.

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Appendix A: Environmental Elements Summary

This table summarizes Environmental Elements that have been considered in developing the Alternatives, and identifies elements affected by the project and where the effects are described in the text. * Environmental features which the Bureau of Land Management is required by law or policy to consider in all Environmental Documentation (BLM Handbook H-1790-1, Appendix 5: Critical Elements of the Human Environment)

ENVIRONMENTAL ELEMENT		EFFECT		SECTION ADDRESSED IN TEXT
		YES	NO	
* Air Quality			X	N/A, No Effect
* Areas of Critical Env. Concern		**X**		Management, Page 12
* Cultural, Historic, Paleontological Resources		X		See Cultural Resources, Pages 16, 19
* Environmental Justice			X	N/A, No Effect
* Prime or Unique Farm Lands			X	N/A, No Effect
* Flood Plain			X	N/A, No Effect
* Native American Religious Concerns			X	N/A, No Effect
* Threatened or Endangered Species	Plants		X	N/A, No Effect
	Animals	X		See Wildlife, Pages 13, 17
Special Status Plant Species			X	N/A, No Effect
Special Status Animal Species		X		See Wildlife, Pages 13, 17
* Hazardous / Solid Waste			X	Parcels will be examined for hazardous materials before acquisition.
* Water Quality (Surface and Ground)			X	N/A, No Effect
Water/Fisheries Resources		X		See Fish/Water, Pages 10, 13, 16, 17
* Wetlands / Riparian Zones		X		See Fish/Water, Pages 10, 13, 16, 17
* Wild and Scenic Rivers		X		See Pages 4, 9, 10, 14, 15, 18
* Wilderness			X	N/A, No Effect
* Invasive, Non-native species		X		See Page 13
Adjacent Land Uses			X	N/A, No Effect
Mineral Resources		X		See Socioeconomics, Pages 19
Recreation/Visual Resources		X		See Rec./Visuals, Pages 14, 15, 18
Socioeconomic Resources		X		See Socioeconomic, Page 15, 19
Soil Resources		X		See soils, Page 10, 16
Vegetation Resources		X		See Vegetation, Pages 12, 17
Wildlife Resources		X		See Wildlife Pages 13, 17
Fuels Management			X	N/A, No Effect

Appendix B: Environmental Elements Summary

This table summarizes Environmental Elements that have been considered in developing the Alternatives, and identifies elements affected by the project and where the effects are described in the text.

*** Environmental features which the Bureau of Land Management is required by law or policy to consider in all Environmental Documentation (BLM Handbook H-1790-1, Appendix 5: Critical Elements of the Human Environment).**

Appendix B: Aquatic Conservation Strategy Objectives

The Salem District Record of Decision and Resource Management Plan (RMP, Sept 1995), calls for the attainment of the Aquatic Conservation Strategy (ACS) objectives. Each objective and the relationship to the proposed action are discussed below. In addition, any subsequent actions on the Offered Land if acquired, would also have to comply with the ASC objectives.

Aquatic Conservation Strategy Objectives

This section will address the effects of implementing the proposed action, described in this document, in relation to each of the ACS Objectives.

Forest Service and BLM-administered lands within the range of the spotted owl will be managed to:

Objective 1: *Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.*

> **Project Discussion:** The acquisition of the lands within the project area would help ensure that the lands are managed in compliance with the ACS objectives. The riparian and wetland habitat on the lands would be protected from potential residential or commercial development. This would contribute toward maintaining the complexity of aquatic systems.

Objective 2: *Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.*

> **Project Discussion:** The acquisition of the Offered Lands would add to the riparian and wetland habitat managed under ACS objectives. The addition of this habitat would contribute toward meeting this objective on a watershed scale.

Objective 3: *Maintain and restore physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.*

> **Project Discussion:** Similar to the discussion in Objectives 1 and 2, the acquisition of the Offered Lands would most likely provide greater protection to the shoreline and banks of the parcel than might otherwise be provided under private ownership or development.

Objective 4: *Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and the benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.*

Project Discussion: As discussed above, the acquisition of the Offered Lands would increase the amount of riparian and wetland habitats managed for ACS objectives and contribute toward meeting this objective especially with restoration efforts on the disturbed lands.

Objective 5: *Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of sediment regime include timing, volume, rate, and character of sediment input, storage and transport.*

Project Discussion: No changes in the sediment regime are expected as a result of the acquisition of the Offered Lands, so the proposed action should not prevent the attainment of this objective.

Objective 6: *Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.*

Project Discussion: No changes in the in-stream flow regimes are expected as a result of the acquisition of the Offered Lands, so the proposed action should not prevent the attainment of this objective.

Objective 7: *Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.*

Project Discussion: Floodplain inundation would not be affected by the acquisition of the Offered Lands, so the proposed action should not prevent the attainment of this objective.

Objective 8: *Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration an to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.*

Project Discussion: The acquisition of the Offered Lands provides additional restoration opportunities for riparian and wetland habitats on the parcels that could contribute to enhancing this objective on a small scale.

Objective 9: *Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.*

Project Discussion: The acquisition of the Offered Lands, provides additional restoration opportunities for riparian and wetland habitats on the parcels that help support riparian-dependent species. This could contribute to enhancing this objective.

Appendix C: Glossary

ACS - See "Aquatic Conservation Strategy"

Aquatic Conservation Strategy - The Aquatic Conservation Strategy was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The strategy would protect salmon and steelhead habitat on federal lands managed by the Forest Service and the Bureau of Land Management within the range of Pacific anadromy. The Aquatic Conservation Strategy is designed to meet nine objectives. Compliance with the Aquatic Conservation Strategy objectives means that an agency must manage the riparian-dependent resources to maintain the existing condition or implement actions to restore biological and physical processes within their ranges of natural variability.

Easements - An interest in land entitling the easement holder privileges to enter the land of another person (usually an owner or tenant) for a particular management purpose.

> **appurtenant easement:** An easement which is attached to the land title and thus transferred upon any transaction.
>
> **perpetual exclusive easement:** A perpetual right acquired by the United States to use land of another for a particular purpose, such right being acquired exclusively by the United States and excluding others from enjoying the same privilege unless specifically authorized by the United States. An exclusive road easement grants control to the U.S. and may allow it to authorize third party use and set road use rules.
>
> **scenic easement:** A right which prohibits the landowner from doing things which otherwise would be lawful upon his estate in order to protect scenic values. Such easements are normally acquired under authority of special legislation such as the Wild and Scenic Rivers Act.
>
> **conservation easement:** A right which prohibits the landowner from doing things on his land which otherwise would be lawful in order to protect the natural resources of the property.

-

EA - See "Environmental Assessment"

Environmental Analysis - A systematic process of developing reasonable alternatives and predicting the probable environmental Effects of a proposed action and the alternatives.

Environmental Assessment - A systematic analysis of site-specific activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal environmental impact statement is required (RMP Chapter 6-4); a concise public document required by the regulations for implementing the procedural requirements of the National Environmental Policy Act (40 CFR 1508.9).

Environmental Impact Statement - A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from

implementation of a major federal action; a detailed written statement as required by section 102(2)(C) of the [National Environmental Policy] Act, as amended (40 CFR 1508.11).

Fee simple - A term employed in legal parlance to denote the fullest degree of ownership in land. Sometimes the word "fee" is employed to denote the same concept. However, this loose terminology should be avoided because there are other interests in land that are also classified as "fee" interests but that lack the totality of ownership which the fee simple absolute confers in the way of title

Finding of No Significant Impact - A document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (40 CFR 1508.4), will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared (40 CFR 1508.13).

IDT - See “Interdisciplinary Team”

Interdisciplinary Team - A group of environmental experts who conduct the environmental analysis.

Major Issue - Also referred to as “significant issue.” A major point of discussion, debate, or dispute about the environmental effects of the proposed action. For the purposes of the National Environmental Policy Act, a major issue or significant issue is an issue within the scope of a proposed action, which is used to formulate alternatives, develop mitigation measures, or is important in tracking effects.

Matrix - Federal Lands outside of reserves, withdrawn areas, and Managed Late-Successional areas. These areas are also expected to be available for timber harvest at varying levels. A federal (BLM and USFS) land allocation which is managed to meet several objectives including but not limited to, the production of a sustainable supply of timber and other forest commodities to provide jobs and contribute to community stability.

Method of evaluation - A measure is an indicator of a variable; a yardstick to determine how the variable is moving (being changed or being altered) relative to an established base point and how the variable is being affected or the change occurring because of the proposed action/alternatives.

National Environmental Policy Act - The basic national charter for the protection of the environment. It establishes policy, sets goals (section 101), and provides means (Section 102) for carrying out the policy.

NEPA - See "National Environmental Policy Act"

Riparian Reserves - Designated riparian areas found outside Late-Successional Reserves.

RR - See “Riparian Reserve”

Scoping - An ongoing process to determine the breadth and depth of an environmental analysis.

Appendix D: List of Interdisciplinary Team Members

Resource	Name	Title	Initial	Date
Cultural Resources	Fran Philipek	District Archeologist		
Hazmat	John Barber	Hazmat		
Hydrology/Water Quality/Soils	Patrick Hawe	Hydrologist		
Wildife T&E	Jim S. England	Wildlife Biologist		
Wildlife/Restoration	Jim Irving	Natural Resource Specialist		
Aquatics/Fisheries	Dave Roberts	Aquatic Biologist		
Recreation/Visual Resource Rural Interface/Wild and Scenic Rivers	Laura Graves	Outdoor Recreation Planner		
Realty	Dick Todd	Realty Specialist		
Ecology/Team Lead/NEPA	Barbara Raible	Ecologist		